What is claimed is:

1. A signal transmitting method in a closed-loop space-time transmit diversity (STTD) system having a plurality of transmission antennas, comprising:

coding symbols to be transmitted to classify them into certain symbol groups;

multiplying a weight value to each classified symbol group and transmitting each symbol group;

multiplying a weight value to a received signal; and

decoding the multiplied signal to estimate a transmission symbol.

2. The method of claim 1, wherein two or more transmission antennas are provided.

3. The method of claim 1, wherein each transmission symbol group includes a predetermined symbol and a symbol that is phase-shifted from the predetermined symbol.

4. The method of claim 1, wherein the same weight values are multiplied to symbols belonging to the same group.

5. The method of claim 1, wherein the weight value is an Eigen vector corresponding to a maximum Eigen value of a channel covariance matrix of channel vector.

6. The method of claim 1, wherein the weight value in transmission and the weight value in reception are the same.

7. The method of claim 1, further comprising:

Eigen-decomposing the channel covariance matrix of channel vector estimated from the receiving signal to calculate a maximum Eigen value and an Eigen vector;

selecting the calculated Eigen vector as a weight value; and

feeding back the selected weight value to a sending end.

8. The method of claim 1, wherein the group of each received signal includes a received signal having a certain symbol and a received signal having a complex value of the certain symbol.

9. A signal transmitting method in a closed-loop space-time transmit diversity (STTD) system having a plurality of transmission antennas, comprising:

space-time coding symbols to be transmitted;

classifying the coded symbols to certain symbol groups; and

multiplying different weight values to each transmission symbol group and transmitting each symbol group.

10. The method of claim 9, wherein two or more transmission antennas are employed.

11. The method of claim 9, wherein each transmission symbol group

includes a predetermined symbol and a symbol that is phase-shifted from the predetermined symbol.

12. The method of claim 9, wherein the number of transmission symbol groups are based upon a total number of transmission antennas.

13. The method of claim 9, wherein the same weight value is multiplied to symbols belonging to the same group.

14. The method of claim 9, wherein the weight value is an Eigen vector corresponding to a maximum Eigen value of a channel covariance matrix of channel vector.

15. A signal receiving method in a closed-loop space-time transmit diversity (STTD) system having a plurality of transmission antennas, comprising:

classifying receiving signals into certain signal groups;

multiplying different weight values to each signal group; and

space-time decoding the multiplied signals to estimate transmission symbols.

16. The method of claim 15, further comprising:

Eigen-decomposing a channel covariance matrix of channel vector estimated from a receiving signal and calculating a maximum Eigen value and an Eigen vector;

selecting the obtained Eigen vector as a weight vector; and

feeding back the selected weight value to a transmitting end.

17. The method of claim 15, wherein the weight value is the same as the weight value used in the transmitting end.

18. The method of claim 15, wherein a received signal having the certain symbol and a received signal having a complex value of the certain symbol are classified as one signal group.

19. A radio communication transmitting apparatus comprising:

a space-time transmit diversity (STTD) encoder to encode data symbols, and to generate first encoded symbols and second encoded symbols from the encoded data symbols;

a first multiplying unit to multiply a first weight value to the first encoded symbols from the STTD encoder to generate first weighted symbols, the first weight value being fed back from a receiving end; and

a second multiplying unit to multiply a second weight value to the second encoded symbols from the STTD encoder to generate second weighted symbols, the second weight value being fed back from the receiving end;

20. The apparatus of claim 19, further comprising:

a first antenna unit having at least two transmission antennas to transmit the first weighted symbols received from the first multiplying unit; and

a second antenna unit having at least two transmission antennas to transmit the second weighted symbols received from the second multiplying unit.

21. The apparatus of claim 19, wherein the STTD encoder additionally classifies the data symbols into groups, and the first and second encoded symbols are generated in accordance with the sorted groups.

22. A radio communication receiving apparatus comprising:

a receiving antenna to receive data symbols transmitted from a transmitting end;

a weight calculator to generate weight values for the received data symbols, and to feed back the weight values to the transmitting end;

a weight multiplying unit apply the weight values to each group of data symbols to generate intermediate values; and

a space-time transmit diversity (STTD) decoder to decode the intermediate values and to estimate the data symbols by using the intermediate values.

23. The apparatus of claim 22, wherein the weight multiplying unit includes a plurality of weight multipliers.

24. The apparatus of claim 22, wherein a total number of weight multipliers equals a total number of data symbol groups.